REMARKS

The following is responsive to the Patent Office Action mailed March 2, 2006. Claims 3, 4, 8, 9 and 12 have been withdrawn pursuant to the restriction requirement. However, in the event that claims 1 and 11 are allowed, the withdrawn claims must be reinstated. Claims 18 and 20 to 24 have been cancelled to reduce the issues for further examination.

Although the Applicant respectfully traverses the rejection of claims 1, 2, 5 to 7, 10, 11 and 13 to 24 by the Examiner for the reasons set forth below, independent claims 1, 11 and 14 have been extensively amended both for clarification and to more clearly define the method and locator stud and panel assembly of this invention as discussed in detail below.

First, it is important to note that ***none of the patents*** cited by the Examiner in his rejection of the claims discloses a locator stud or a method of attaching a locator stud on a panel. As set forth in the Background of the Invention, locator studs or pins are used in mass production applications "to accurately locate one component relative to a second component." Locator studs are typically used to "accurately locate a component relative to the frame member" of a vehicle, for example. The locator studs "must be accurately positioned on the panel," and "include a shank or pin portion which projects from the panel and are used to locate a second component relative to the panel." Thus, the locator studs or pins "must not only be accurately located on the panel, but the shank portion must project perpendicular to the panel." (p. 1, ¶ s [00003] and [00004]).

The ***principal prior art reference*** relied upon by the Examiner is U.S. Patent No. 5,868,535 of ***Ladouceur*** assigned to Multifastener Corporation, the predecessor in interest of the assignee of this application. The self-riveting fastening element disclosed in the ***Ladouceur*** patent is identical or substantially identical to the other ***Ladouceur*** patents cited in the Information Disclosure Statement. Further, U.S. Patent No. 4,543,701 of ***Müller*** is also assigned to the predecessor in interest of the assignee of this application and the method of

attaching a fastener to a panel disclosed in the ***Müller*** patent is also identical or substantially identical to the disclosure of the other ***Müller*** patents cited in the Information Disclosure Statement.

The ***Ladouceur*** and ***Müller*** patents disclose self-piercing and self-riveting stud fasteners including a shank portion (28 of ***Ladouceur*** and 20 of ***Müller***) at one end of the fastener, ***an intermediate*** radial flange portion (24 of ***Ladouceur*** and 30 of ***Müller***) and a ***tubular*** self-riveting or self-piercing barrel portion (40 of ***Ladouceur*** and 40 of ***Müller***) ***at the opposed end of the fastener***. The location of the shank portion at one end of the fastener and the tubular self-piercing or self-riveting barrel portion at the opposite end of the fastener is ***critical*** to the method of installation of the fasteners disclosed in the ***Ladouceur*** and ***Müller*** patents. As shown in Figures 5 to 7 of the ***Ladouceur*** patent, for example, the tubular barrel portion 22 is received through a panel opening 50 into the concave surface 57 of a die member 54 and riveted to the panel as shown in Figure 7. The radial flange portion 24 is ***not received in the panel opening 50***. The method of installing the fastener disclosed in the ***Müller*** patent is substantially identical. As will be understood from the disclosure of the ***Ladouceur*** and ***Müller*** patents, if the shank portion was located at one end and the radial flange portion was located at the opposite end, the methods disclosed in the ***Ladouceur*** and ***Müller*** patents ***would be inoperative***. Further, there is ***no requirement with a self-piercing or self-riveting fastener*** of the type disclosed in the ***Ladouceur*** and ***Müller*** patents for the shank portion to ***accurately project*** perpendicular to the panel because the shank portion does not function to accurately align or locate one component relative to a second component as is required for a locator stud. The Applicant therefore respectfully submits that although the method of attaching and installing a self-attaching fastener disclosed in the ***Ladouceur*** and ***Müller*** patents may have been relevant to the method of attaching a locator stud to a panel of

this invention, the disclosed methods are ***entirely different and serve an entirely different function***.

Independent claims 1 and 11 have now been amended to include "forming a locator stud" as a method step and specifically recites that the method includes forming a locator stud "including a shank portion ***at one end*** and a ***solid flange portion at an opposed end***" (emphasis added), wherein the solid flange portion includes an end face. Claim 11 has been amended to recite that the end face of the radial flange portion is "***concave generally frustoconical***." The end face is opposite a radial annular bearing surface surrounding the shank portion. As set forth above, if the radial flange portion of the self-riveting fasteners disclosed in the ***Ladouceur*** and ***Müller*** patents had the radial flange portion at one end of the fastener or the tubular barrel portion at the opposite end was "solid," the methods disclosed in the ***Ladouceur*** and ***Müller*** patents ***would be inoperative***. That is, the method of attaching the self-piercing and self-clinching fasteners disclosed in the ***Ladouceur*** and ***Müller*** patents would be inoperative if the radial flange portion were located at one end of the fastener or the tubular barrel portion was solid because the tubular barrel portion performs the fastening function.

Although the Applicant respectfully traverses the Examiner's rejection of claims 1, 2, 5 to 7 and 10 to 13 under 35 U.S.C. § 112, 2nd paragraph, as being "indefinite," claims 1 and 11 have been amended to more specifically recite that it is the diameter of the panel opening which is generally greater than the flange portion. However, the Examiner was correct in noting that claim 3 incorrectly recited that the annular die surface of the plunger is convex. Claims 3 and 4 will be amended, however, in the event that claim 1 is allowed.

Claims 1 and 11 are further amended herein to more specifically recite the method step of inserting the flange portion of the locator stud in the panel opening. As set forth above, none of the cited prior art references disclose a method of installation wherein the

radial flange portion is solid or the radial flange portion is inserted into a panel opening. However, claims 1 and 11 have been further amended to more specifically recite that the radial flange portion is inserted into the panel opening with the "radial annular bearing surface projecting through one end of (the) panel opening and (the) end face projecting through an opposed end of (the) panel opening" for clarification and to further differentiate over the prior art. None of the prior art references cited by the Examiner disclose this step of the method of this invention. The Examiner was ***incorrect*** in finding that the method disclosed in the ***Ladouceur*** patent includes "inserting said flange portion of (the fastener) in said panel opening." (¶ 6).

Claim 1 further recites the method of this invention, including driving a plunger toward the panel, wherein the plunger includes an opening (32) receiving the shank portion of the locator stud, a first die surface (62) surrounding the panel opening aligned with the annular bearing surface (62) "deforming said annular bearing surface radially outwardly against said panel," and a ***second projecting annular die surface (62) surrounding said first die surface (62)"*** which is "driven against said panel surrounding said panel opening, deforming said panel radially outwardly against an outer concave surface of said flange portion." The Examiner in his rejection finds that the ***Ladouceur*** patent teaches this method which the Applicant ***traverses***. The plunger (60) disclosed in the ***Ladouceur*** patent does include a ***first die surface (64) surrounding the opening***; however, the plunger ***does not include a "second projecting annular die surface surrounding said first annular die surface***" which is driven against the panel to deform the panel to deform the panel radially inwardly against an outer concave surface of the flange portion. Thus, claim 1 as filed patentably distinguished over the prior art and claim 1 as amended also patentably distinguishes over the prior art, contrary to the finding by the Examiner.

In summary, independent claims 1 and 11 to the method of attaching a locator stud on a panel patentably distinguishes over the prior art. None of the prior art references cited by the Examiner disclose a method of attaching a locator stud on a panel. Further, none of the prior art references disclosed a locator stud as defined in these claims, including a shank portion at one end of the locator stud and a ***solid*** flange portion at an opposed end of the locator stud and the method steps discussed in detail above. Thus, the Applicant respectfully submits that claims 1 and 11 are in condition for allowance.

The method steps defined in the dependent claims also patentably distinguish over the prior art cited by the Examiner. The Examiner finds that claim 2 is unpatentable over the ***Ladouceur*** patent in view of the teaching of U.S. Patent No. 2,780,265 of ***Brancato***. The ***Brancato*** patent is simply unrelated art and does not disclose or suggest a solution to the problem of attaching a locator stud on a panel. As stated by the Federal Circuit in ***In Re Sang Su Lee***, 277 F.3d 1338 (Fed. Cir. 2002), the "factual inquiry whether to combine reference must be thorough and searching," and to prevent "a hindsight-based obviousness analysis," there must be a "rigorous application of the requirement for a showing of the teaching or motivation to combine prior art references." There is simply no disclosure in either of the ***Ladouceur*** or ***Brancato*** references of a showing, teaching or motivation to combine these references. The Examiner is relying solely upon hindsight in finding that it would be obvious to combine the teaching of these references and further, the proposed combination would not teach or suggest the method of this invention as defined in the claims, particularly claims 1 and 2. The Examiner is simply incorrect in finding that the ***Ladouceur*** patent teaches the claimed invention except for the diameter of the hole to be greater than the flange portion of the locator stud. Further, the method disclosed in the ***Ladouceur*** patent could or should be modified to include a hole through the panel greater than the diameter of

the flange portion. The methods of this invention and the ***Ladouceur*** patent are simply different and contrary.

Further, claims 14 and 15 were rejected by the Examiner as unpatentable under 35 U.S.C. § 103(a) over the ***Ladouceur*** patent in view of the teaching of U.S. Patent No. 2,486,769 of ***Watson***. The ***Watson*** patent discloses a "Staked Fastener," which is again an entirely different type of fastening system and method of installation. Figure 10 of the ***Watson*** patent discloses a staked fastener having a shank portion (2C), a boss (2) having one or more prongs (1), a central protuberance (3) adapted to be received in a circular hole (4) in a panel having a frustoconical outer surface (7). Again, the Examiner finds that the ***Ladouceur*** patent teaches a locator stud, which is incorrect as set forth above, and receiving the flange portion of the locator stud into a panel opening. As set forth above, this finding is simply incorrect. Further, the Examiner finds that it would be obvious to a person of skill in this art to have combined the locator stud with the flush end taught by ***Watson***; however, the Applicant respectfully traverses this finding because there is no teaching or motivation to combine the prior art references, except in hindsight based upon the method claimed in this application.

The other claims dependent upon claims 1 and 11 also patentably distinguish over the prior art. For example, claim 5 specifically recites that the end face of the locator stud is a concave generally conical face having a major diameter adjacent an outer surface or rim of the flange portion, wherein the method includes driving the concave generally conical face of the solid radial flange portion against a die member. It is not understood how the Examiner can reject claims 5 and 6, for example, as unpatentable over ***Ladouceur*** in view of ***Brancato*** and further in view of the ***Müller*** patent as set forth in paragraph 10 of the Office Action. As set forth above, neither the ***Ladouceur*** or ***Müller*** patents disclose or suggest a method of attaching a locator stud on a panel, wherein the locator stud is formed to include a shank

portion at one end and a solid radial flange portion at an opposed end and wherein the method includes the solid flange portion in the panel opening, particularly claim 1 as amended to more specifically recite that the radial annular bearing surface projects through one end of the panel opening and the end face projecting through an opposed end of the panel opening and the specific method steps discussed above. The ***Ladouceur*** and ***Brancato*** patents ***do not*** disclose most of the claimed invention as found by the Examiner in paragraph 10 of the Office Action and the ***Müller*** patent does not disclose or suggest a frustoconical end face on a solid radial flange portion.

Claim 7 was rejected by the Examiner in paragraph 6 of the Office Action as unpatentable over the ***Ladoucer*** patent in view of the teaching of the ***Brancato*** patent under 35 U.S.C. § 103(a). This rejection is also not understood. Claim 7 (now dependent upon claim 6), recites that the die member (34) includes a projecting annular die surface (68 in Figures 4 and 5) having a diameter greater than the flange portion and the projecting annular die surface of the plunger (64) has "a diameter generally equal to said projecting annular die surface (68) of said die member," and "coaxially aligned therewith," wherein the method of this invention includes driving the plunger toward the panel and the end face of the flange portion against the die member, "driving said second projecting annular die surface (64) of the plunger against said panel, and said panel against said coaxially aligned projecting annular die surface (68) of said die member, thereby deforming coaxially aligned annular depressions (72) and (68) into opposed sides of said panel surrounding said flange portion of said locator stud." There is simply no disclosure or suggestion of a plunger having a second projecting annular die surface or a coaxially aligned projecting annular die surface (68) on a die member, much less the specifically recited method of claim 7. The Examiner is simply incorrect in the findings regarding claim 7 of this application.

Claim 14 is specifically directed to a locator stud and panel assembly. Claim 14 was rejected by the Examiner as unpatentable over the ***Ladouceur*** patent in view of the teaching of the ***Watson*** patent under 35 U.S.C. § 103(a). The Applicant respectfully traverses the rejection of claim 14 as filed, but claim 14 has been further amended to more specifically recite the locator stud and panel assembly of this invention. First, as set forth above, the prior art patents cited by the Examiner do not disclose or suggest a locator stud including a cylindrical shank portion at one end of the locator stud and a solid radial flange portion integral with and coaxially aligned with the shank portion at an opposed end of the locator stud. Claim 14 has further been amended to more specifically recite that the locator stud includes a radial annular bearing surface surrounding the shank portion, a concave generally frustoconical end face opposite the annular bearing surface and a concave outer surface extending inwardly from the radial annular bearing surface and the end face. The Applicant respectfully submits that none of the prior art references discloses a locator stud as defined in claim 14. Claim 14 further recites that the panel has a thickness generally equal to an axial length of the solid flange portion, including a convex inner surface deformed into the concave outer surface of the flange portion and the flange portion is generally flush with the panel and the shank portion "projecting from (the) panel perpendicular to (the) panel." The Examiner in his rejection of claim 14 simply focuses upon the flush installation of the stake fastener of the ***Watson*** patent and ***ignores*** the other limitations of claim 14. First, as set forth above, there is no teaching or motivation to combine the staked fastener disclosed in the ***Watson*** patent with the self-piercing or self-clinching fastener disclosed in the ***Ladouceur*** patent. First, it is not understood how the ***Ladouceur*** patent could be modified as taught by the ***Watson*** patent to form a flush installation except by adding prongs, etc. to the flange portion of the ***Ladouceur*** patent and the combination suggested by the Examiner would still not result in the locator stud and panel assembly as defined in claim 14. Obviously, the end face

(6) of the central protuberance (3) of ***Watson*** is not a concave generally frustoconical end face and the outer surface is not concave as specifically recited in claim 14 and thus the panel is not deformed into a concave outer surface of the solid flange portion.

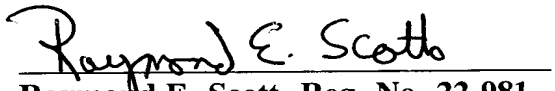
The claims dependent upon claim 14 also patentably distinguish over the prior art, particularly including claims 16 and 17, wherein the panel includes a V-shaped annular depression or V-shaped annular depressions formed into opposed sides of the panel. Claims 16 and 17 were rejected as unpatentable over the ***Ladouceur*** patent in view of the teaching of the ***Watson*** patent and further in view of the teaching of the ***Brancato*** patent. The Examiner finds that it would be obvious from the teaching of the ***Brancato*** patent to form V-shaped depressions in the panel of ***Ladouceur*** and ***Watson*** (alone or in combination?). As set forth above, the ***Brancato*** patent relates to a thread coil secured in ductile material by deformation of the ductile material. The fastener disclosed in the ***Ladouceur*** patent would be inoperative if formed of a "ductile material." The ***Brancato*** patent is entirely unrelated art and there is no "showing of the teaching or motivation to combine (the) prior art references" as required by the Federal Circuit ***In Re Sang Su Lee***, supra. The ***Ladouceur*** and ***Watson*** patents are complete by themselves and it is not understood why it would be obvious to combine the teaching of the unrelated ***Brancato*** patent with the teaching of either ***Ladouceur*** or ***Watson*** alone or in combination except based upon hindsight and the claimed locator stud and panel assembly of claim 14. Further, the ***Brancato*** patent does not teach the solution to a problem associated with the self-piercing stud and panel assembly of ***Ladouceur*** or the staked fastener of ***Watson***. The Applicant therefore respectfully traverses the proposed combination of references proposed by the Examiner and respectfully submits that the proposed combination would not result in the locator stud and panel assembly as defined in claims 16 and 17.

The Applicant respectfully submits that all of the remaining claims in this application patentably distinguish over the prior art cited by the Examiner or known to the Applicant for the reasons set forth above. The claims in this application have been amended to more specifically define this invention although the Applicant further respectfully submits that the claims as filed also patentably distinguish over the prior art for the reasons set forth above. The Applicant therefore respectfully requests reconsideration and allowance of the remaining claims in this application and consideration of the withdrawn claims based upon the allowance of claims 1, 11 and 14.

Enclosed is our check in the amount of $120.00 as required for the filing of this Amendment. If there are any additional fees due, the Commissioner is authorized to charge our Deposit Account for those additional fees or credit the account for any overpayments regarding this Amendment.

Respectfully submitted,

HOWARD & HOWARD ATTORNEYS, P.C.



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CERTIFICATE OF EXPRESS MAILING

I hereby certify that the enclosed **Amendment** is being deposited with the United States Postal Service as Express Mail, postage prepaid, in an envelope as "Express Mail Post Office to Addressee," Mailing Label No. **EV695476933US** and addressed to **Mail Stop Fee Amendment,** Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450 on **June 13, 2006.**

Tracy L. Smith